normal based on a blood sample obtained after eight hours of fasting.

A majority of people with pre-diabetes will develop type 2 diabetes within ten years unless preventive measures are taken (15, 22, 23). The development of diabetes in overweight/obese people occurs when chronic maintenance of an overweight status results in insulin resistance. Unless weight reduction measures are followed, the risk of pre-diabetes increases as does type 2 diabetes (2, 6,15, 18, 22, 24, 29, 31, 33, 45, 47, 51). Studies have shown that lifestyle changes (i.e., 5 to 10 percent decrease in weight in overweight/obese people and an increase in physical activity) can prevent the development of type 2 diabetes in 30 percent to 60 percent of people with pre-diabetes (2, 15, 19, 23, 29, 51). With the national prevalence of pre-diabetes at 6.2 percent, many North Carolinians with pre-diabetes can potentially benefit from lifestyle changes (Table 5). It is estimated that more than 400,000 North Carolina residents have pre-diabetes (Figure 6).

**Clinical definitions of overweight and obesity**

The term "overweight" refers to an excess of body weight compared to set standards. The excess weight may come from muscle, bone, fat and/or body water. Obesity refers specifically to having an abnormally high proportion of body fat (19).

Body Mass Index (BMI) is a measure that can be used to screen for both overweight and obesity in adults. BMI is a calculation based on height and weight and is not gender-specific in adults. BMI does not directly measure percent of body fat, but it is a more accurate indicator of overweight and obesity than relying on weight alone. Defining overweight as a BMI of 25 or greater is consistent with the recommendations of the World Health Organization (WHO) and most other countries. An expert panel from the National Heart, Lung, and Blood Institute (NHLBI) identified overweight as a BMI of 25 to 29.9 kg/m$^2$ and obesity as a BMI of 30 kg/m$^2$ or greater (19).

**Cost-effectiveness of screening for pre-diabetes among overweight and obese U.S. adults**

A new study by Research Triangle Institute International, published in the November 2007 issue of Diabetes Care, found that screening overweight and obese adults aged 45-74 to detect pre-diabetes *and* providing diabetes prevention lifestyle interventions to those found to have the condition improves quality of life and is cost-effective (26).

The study looked at prescreening strategies that provided lifestyle interventions to people with impaired glucose tolerance (IGT), impaired fasting glucose (IFG), or both conditions. The study indicated that it would cost the health care system $8,181 to gain one quality-adjusted life-year (QALY) among persons who had both IFG and IGT. However, it would cost $9,511 for the health care system to gain one QALY among with either IFG or IGT. Both ratios are better than the benchmark commonly used for cost effectiveness studies, $50,000 to gain one QALY.